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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/003,134	11/15/2001	Linden Minnick	042390P12310	6022

7590 06/29/2005

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EXAMINER

TRUONG, LECHI

ART UNIT PAPER NUMBER

2194

DATE MAILED: 06/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/003,134

Applicant(s)

MINNICK ET AL.

Examiner

LeChi Truong

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 25 May 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. Claims 1-32 are presented for examination.

#### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 12, 23, 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harrington et al (US. Patent 4,939,644).

3. As to claim 1, Harrington teaches the invention substantially as claimed including: a plurality of commands (list of command sequences, col 2, ln 15-20), a controller (I/O controller, col 2, ln 15-20), issuing a plurality of commands to a controller, wherein the commands are issued in a first order (col 2, ln 15-20), the completion status of commands is indicated in a second order (col 2, ln 20-25), the term the second order is capable of being different from the first order (col 2, ln 22-25/ ln 26-30/ col 12, ln 3-10). Harrington does not explicit teach the term issuing. However, Harrington teaches issuing commands (stored commands, col 2, 17-20/ incoming commands, col 3, ln 25-30). It would have been obvious to one of the ordinary skill in the art at the time the invention was made that Harrington's issuing would improve the efficiency of Harrington system by allowing the controller to make the most effective use of a sequence of such commands.

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4. As to **claim 12**, it is an apparatus claim of claim 1; therefore, it is rejected for the same reason as claim 1 above. In additional, Harrington teaches a machine –readable medium having instruction (col 3, ln 10-15).

5. As to **claim 23**, it is an apparatus claim of claim 1; therefore, it is rejected for the same reason as claim 1 above.

6. As to **claim 28**, it is an apparatus claim of claim 1; therefore, it is rejected for the same reason as claim 1 above. In additional, Harrington teaches a plurality of computation units (col 4, ln 6-9).

7. Claims **2, 5, 11, 13, 16, 17, 24, 29** are rejected under 35 U.S.C. 103(a) as being unpatentable over Harrington et al (US. Patent 4,939,644) in view of Ghaffari et al (US. Patent 6,088,740).

8. As to **claim 2**, Harrington does not explicit teach the command includes a command, a memory address identifying a memory location to which the completion status will be written, and a value to be written upon completion of the command. However, Ghaffari teaches a command, a memory address identifying a memory location to which the completion status will be written, and a value to be written upon completion of the command (the command block 501 include the command to be executed as identified in the command code 510... the address and byte count of data locations where the results of a given data operation should be placed, col 7, ln 24-25/ln 45-50/Fig. 5).

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9. I would have been obvious to one of the ordinary skill in the art at the time the invention was made to combine the teaching of Harrington and Ghaffari because Ghaffari's a command, a memory address identifying a memory location to which the completion status will be written, and a value to be written upon completion of the command would improve the throughput of Harrington's system by executing the discrete commands quickly and efficiently for an error recovery when necessary.

10. As to claim 5, Ghaffari teaches a first memory location (col 4, ln 5-10), the second memory location (col 7, ln 49-51).

11. As to claim 11, Ghaffari teaches the value to be written indicated the command's original location (col 7, ln 25-27).

12. As to claims 13, 16, 17, 24, 29, they are apparatus claims of claims 2, 11, 5; therefore, they are rejected for the same reasons as claims 2, 11, 5 above.

13. Claims 3, 4, 14, 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harrington et al (US. Patent 4,939,644) in view of Ghaffari et al (US. Patent 6,088,740) and further in view of Kohn (US. Patent 4,366,536).

14. As to claims 3, 4, Harrington and Ghaffari do not teach an absolute address and an offset from a base memory address. However, Kohn teaches an absolute address and an offset from a base memory address (address indicated the offset, the absolute variable data are addresses, col 2, ln 8-16/ ln 42-45).

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15. It would have been obvious to one of the ordinary skill in the art at the time the invention was made to combine the teaching of Harrington, Ghaffari and Kohn because Kohn's address indicated the offset, the absolute variable data are addresses would improve the efficiency of Harrington and Kohn's systems by providing addresses to the respective memories and the program counter to the respective memories.

16. As to claims 14, 15, they are apparatus claims of claims 3, 4; therefore, they are rejected for the same reasons as claims 3, 4 above.

17. Claims 6-9, 18-21, 25-26, 30-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harrington et al (US. Patent 4,939,644) in view of Saito (US. Patent 6,567,862 B1).

18. As to claim 6, Harrington does not teach the commands are grouped into categories. However, Saito teaches the commands are grouped into categories (groups received commands and stored commands to predetermined command group are according to group, col 2, ln 28-35).

19. It would have been obvious to one of the ordinary skill in the art at the time the invention was made to combine the teaching of Harrington and Saito because Saito's groups received commands and stored commands to predetermined command group are according to group would improve the flexibility of Harrington and Saito's systems by allowing movement of a recording head of the data server to be reduced. Therefore, the efficiency of disk access could be improved.

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20. As to claims 7, 8, 9, Saito teaches their execution time/ a plurality of resource executes / a plurality of memory location (according to a recording area on the data recording medium accessed by each command, col 3, ln 1-5/based on this address information... corresponding to the access disk, col 8, ln 45-56/ at the command execution time T', col 12, ln 41-42).

21. As to claims 18-21, 25-26, 30-31, they are apparatus claims of claims 6-9; therefore, they are rejected for the same reasons as claims 6-9 above.

22. Claims 10, 22, 27, 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harrington et al (US. Patent 4,939,644) in view of Saito (US. Patent 6,567,862 B1) and further in view of Ghaffari et al (US. Patent 6,088,740).

23. As to claim 10, Harrington and Saito do not teaches a single memory location. However, Ghaffari teaches a single memory location (a set of n command blocks 210-211, col 4, ln 4-10).

24. I would have been obvious to one of the ordinary skill in the art at the time the invention was made to combine the teaching of Harrington, Saito and Ghaffari because Ghaffari's a single memory location improve the reliability of Harrington, Saito and Ghaffari's systems by executing discrete commands quickly and efficiently for an error recovery when necessary.

25. As to claims 22,27, 32, they are apparatus claims of claim 10; therefore, they are rejected for the same reason as claim 10 above.

**Response to the argument:**

29. Applicant amendment filed on 05/25/2005 has been considered but they are not persuasive:

Applicant argued in substance that :

(1) “ does not teach that completion status of commands is indicated in a second order that is different from the first order”.

(2) “no teaching or suggestion in Harrington that any indication to the controller commands have been executed should occur in any order that the order in which the commands are issued”.

30. Examiner respectfully disagreed with Applicant's remarks:

As to the point (1), Harrington teaches the busy and Done flags indicated whether the I/O controller is performing an operation or whether it has completed one and their settings can be checked before issuing a PIO command( col 12, ln 2-10), the second order is must be different from the first order since the commands are performed in any desired optimized order. The commands are not performed based on the order in which the command are issued, but the commands are performed in any desired optimized order( col 1, ln 25-30/ abstract ln 7-10).

As to the point(2), the limitation “to the controller commands have been executed should occur in any order that the order in which the commands are issued” was not in the claims. However, Harrington teaches after the commands are stored in the I/O controller, Thus, the controller may be arranged to select a more efficient procedure in which command from the several different command lists can be executed in any desired optimized order(col 2, ln 25-30).

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).



A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LeChi Truong whose telephone number is (703) 305 5312. The examiner can normally be reached on 8 - 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on 703-305-9678. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIP. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIP system, contact the Electronic Business Center (EBC) at 866-217-9197(toll-free).

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LeChi Truong

June 24, 2005

A handwritten signature in black ink, appearing to read 'St. John', with a long, sweeping horizontal line extending to the right.

ST. JOHN COURTENAY III  
PRIMARY EXAMINER